

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte VINCENT D. ROMERO

Appeal No. 1997-3784
Application 08/495,297

ON BRIEF

Before COHEN, STAAB, and MCQUADE, Administrative Patent Judges.

MCQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Vincent D. Romero appeals from the final rejection of claims 1 through 27, all of the claims pending in the application.

THE INVENTION

The invention relates to "patterned abrading articles comprising a substrate having raised portions with an abrasive material deposited on the raised portions" (specification, page 1). Representative claims 1 and 13 read as follows:

1. A coated abrasive article having a patterned abrasive surface, the article comprising:

a substrate having a periphery, a first side and a second side opposite said first side and comprising a thermoplastic material;

said first side having a plurality of raised portions suitable for the application of an abrasive coating thereon, and recessed areas extending around said periphery on said first side and between said raised portions, said second side being substantially planar;

a first adhesive layer applied to said raised portions;
and

an abrasive material deposited onto said first adhesive layer thereby coating said raised portions to form an abrasive coating, said recessed areas remaining substantially free of said abrasive material.

13. A method of making a coated abrasive article, the method comprising:

providing a substrate comprising a thermoplastic material, said substrate having a periphery, a first side and a second side opposite said first side;

forming raised portions in said first side of said substrate so that said first side consists of said raised portions suitable for the application of an abrasive coating thereon with recessed areas extending around said periphery on said first side and between said raised portions and said second side consists of a substantially planar surface;

applying an adhesive layer onto said raised portions, said raised portions providing a means for said adhesive layer to be applied uniformly; and

depositing an abrasive material on the first adhesive layer thereby coating the raised portions of the substrate, the recessed areas remaining substantially free of the abrasive material deposit.

THE PRIOR ART

The references relied on by the examiner as evidence of obviousness are:

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Gardner	970,618	Sep. 20,
1910		
Drake	1,854,508	Apr. 19,
1932		
Maran	3,991,527	Nov. 16,
1976		

Wiand (Wiand '795)	5,174,795	Dec. 29,
1992		
Wiand (Wiand '249)	5,197,249	Mar. 30,
1993		
Berg et al. (Berg)	5,201,916	Apr. 13,
1993		
Stout et al. (Stout)	5,316,812	May 31,
1994		

THE REJECTIONS

Claims 1, 3 through 8, 13, 26 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wiand '795 in view of Maran.¹

Claims 10 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wiand '795 in view of Maran and Drake.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wiand '795 in view of Maran and Berg.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wiand '795 in view of Maran and Gardner.

Claims 11 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wiand '795 in view of Maran and Wiand '249.

Claims 2 and 16 through 25 stand rejected under 35 U.S.C.

¹ Although claims 1, 3 through 8, 13, 26 and 27 stood rejected under § 103(a) as being unpatentable over the same reference combination in the final rejection (Paper No. 17), on appeal the examiner has designated this rejection as a new ground of rejection (see pages 9 through 11 in the main answer, Paper No. 22) due to changes in the underlying rationale.

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§ 103(a) as being unpatentable over Wiand '795 in view of Maran and Stout.

Attention is directed to the appellant's main and reply briefs (Paper Nos. 21 and 24) and to the examiner's main and supplemental answers (Paper Nos. 22 and 25) for the respective positions of the appellant and the examiner with regard to the merits of these rejections.

DISCUSSION

Wiand '795, the examiner's primary reference, discloses an abrasive pad for polishing marble and stone. The pad 10 includes a planar circular sheet portion 12, a fiberglass reinforcing mesh 22 embedded within the sheet portion, a plurality of abrasive protrusions 14 extending from one side of the sheet portion, a peripheral lip portion 16, having the same height as the abrasive protrusions, extending from the same side of the sheet portion to allow the pad to climb over obstacles on an irregular work surface without damaging the protrusions, and a central orifice 20 for fitting to a rotary tool. The sheet portion, abrasive

protrusions and peripheral lip portion comprise an integrally molded construction of thermoplastic or thermosetting material containing an intimate mixture of abrasive grit material.

As conceded by the examiner (see page 10 in the main answer), Wiand '795 does not meet the limitations in independent claims 1 and 13 requiring the abrasive article to be "coated" wherein a first adhesive layer is applied to the raised portions and an abrasive material is deposited onto the adhesive layer thereby coating the raised portions, with the recessed areas between the raised portions remaining substantially free of the abrasive material. Notwithstanding the examiner's position to the contrary, Wiand '795 also fails to meet the limitations in claims 1 and 13 requiring the recessed areas to extend around the periphery of the substrate. As clearly shown in Figures 1 and 4, Wiand's peripheral lip portion 16, not the recessed areas between the abrasive protrusions, extends around the periphery of the Wiand '795 substrate (sheet portion 12). The examiner's attempt to explain away this discrepancy by characterizing the "periphery" of Wiand's substrate as the "area between the outer most protrusions and the peripheral lip portion"

(answer, page 10) is inconsistent with both the Wiand '795 disclosure and the ordinary and accustomed meaning of the term "periphery."

Maran discloses a coated abrasive grinding disc which is prepared

by coating a substrate disc or sheet of fibrous paperboard, or like material, as by means of a patterned adhesive transfer roll, embossing or the like, to form rows of geometrically patterned adhesive coated areas in the substrate; and then applying finely divided abrasive material over the adhesive coated areas to form a geometrical pattern of abrasive coated areas on the substrate with rows of uncoated scavenging channels extending between the abrasive coated areas and opening onto the outer or peripheral edge of the abrasive coated disc [Abstract].

Figures 4 through 6 illustrate such an abrasive disc made from a flat fiberboard sheet, and Figures 11 and 12 show a disc made from an embossed fiberboard sheet.

In proposing to combine Wiand '795 and Maran to reject the appealed claims, the examiner concludes that it would have been obvious to one of ordinary skill in the art "to utilize the teachings of a substrate . . . with abrasive material . . . deposited onto a adhesive layer . . . with the substrate of Wiand '795, as taught by Maran '527, since such a modification would have provided for scavenging channels which would

effectively discharge debris from the abrading operation"
(main answer, page 11).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination; the mere fact that prior art may be modified in the manner suggested by an examiner would not have made the modification obvious unless the prior art suggests the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). As indicated above, the abrasive pads/discs respectively disclosed by Wiand '795 and Maran embody substantial differences in structure and method of manufacture. In short, there is nothing in the collective teachings of these references which would have suggested the highly selective combination of features proposed by the examiner. The explanation advanced by the examiner in support of the combination, i.e., to provide the Wiand pad with scavenging channels as taught by Maran, highlights the impermissible hindsight impetus for the combination. To begin

with, the Wiand '795 pad already has channels or recesses between its abrading protrusions. Moreover, Wiand's peripheral lip portion 16 would effectively thwart any scavenging effect attributable to such channels/recesses. Of course, due to the presence of the peripheral lip portion 16, Wiand's pad, even if modified in view of Maran as proposed by the examiner, would still not respond to the limitations in claims 1 and 13 requiring the recessed areas to extend around the periphery of the substrate.

Hence, the combined teachings of Wiand '795 and Maran do not justify the examiner's conclusion that the differences between the subject matter recited in independent claims 1 and 13 and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. Therefore, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of claims 1 and 13, and dependent claims 3 through 8, 26 and 27, as being unpatentable over Wiand '795 in view of Maran.

Inasmuch as the examiner's respective applications of Drake, Berg, Gardner, Wiand '249 and Stout do not cure the

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foregoing deficiencies in the basic Wiand '795 and Maran combination, we also shall not sustain the standing 35 U.S.C. § 103(a) rejections of dependent claims 10 and 14 as being unpatentable over Wiand '795 in view of Maran and Drake, of dependent claim 12 as being unpatentable over Wiand '795 in view of Maran and Berg, of dependent claim 9 as being unpatentable over Wiand '795 in view of Maran and Gardner, of dependent claims 11 and 15 as being unpatentable over Wiand '795 in view of Maran and Wiand '249, and of dependent claims 2 and 16 through 25 as being unpatentable over Wiand '795 in view of Maran and Stout.

SUMMARY

The decision of the examiner to reject claims 1 through 27 is reversed.

REVERSED

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IRWIN CHARLES COHEN)	
Administrative Patent Judge)	
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)	APPEALS AND
LAWRENCE J. STAAB)	
Administrative Patent Judge)	INTERFERENCES
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